AMENDMENT

IN THE CLAIMS:

Please amend the claims as follows:

1. (Previously presented) A nano-twin copper material with ultrahigh strength and high electrical conductivity comprising roughly equiaxed submicron-sized grains, inside each grain, there twin lamellae with different orientations and high density; and the twin lamellae with the same orientations are inter-parallel; the thickness of the twin lamellae range from several nanometers to 100 nm; and the lengths from 100-500 nm.

2. (Previously presented) The nano-twin copper material with ultrahigh strength and high electrical conductivity according to claim 1, wherein the nano-twin copper material has, at a temperature of 293 K, a density of 8.93 ± 0.03 g/cm^3, a purity of 99.997 ± 0.02 at%, a yield strength of 900 ± 10 MPa, an elongation of 13.5±0.5%, a tensile strain rate of 6×10^{-3}/s, an electrical resistivity of $(1.75 \pm 0.02) \times 10^{-8}$ Ω·m, and a temperature coefficient of resistivity of 6.78×10^{-11} K^{-1}.

3. (Previously presented) The nano-twin copper material with ultrahigh strength and high electrical conductivity according to claim 1, wherein the size of the grains range from 300-1000 nm.

4. (Currently amended) A method for producing a nano-twin copper material with ultrahigh strength and high electrical conductivity according to claim 1, which comprises

performing electrodeposition using an electron purity grade $CuSO_4$ solution having a pH of 0.5-1.5 and ion-exchanged water or distilled water as an electrolyte, 99.99% pure Cu sheet ~~as the~~ as an anode, an iron sheet or a low carbon steel sheet with surface plated by a Ni-P amorphous layer as a cathode; and an additive comprising 0.02-0.2 mL/L gelatine aqueous solution with concentration of 5-25% and 0.2-1.0 mL/L high-purity NaCl aqueous solution with concentration of 5-25%;

with a pulse current density of 40~100 A/cm^2; an on-time (t_{on}) of 0.01~0.05s and an off-time (t_{off}) of 1~3s; a distance of 50~100 mm between the anode and the ~~cathode of~~ cathode, and the anode to cathode area ratio of 30~50:1; and

electromagnetically stirring at a temperature of 15~30 ℃.